

4. REMARKS

Applicant has cancelled Claims 1 -22, and added new Claims 23-39.

The Examiner rejected Claims 3-22 under a statutory double patenting rejection. Claims 3-22 were cancelled, which is believed to overcome this rejection. The Examiner rejected Claim 1 under 35 U.S.C. §102(b) as being anticipated by United States Patent No. 4,671,740 issued to Ormiston et al (“Ormiston”), and Claims 1 and 2 under 35 U.S.C. §103(a) as being obvious over Ormiston in light of U.S. Patent 1,985,705 issued to Whiton (“Whiton”). Claims 1 and 2 have been cancelled, and therefore it is believed that these rejections are no longer applicable. Applicant does not believe these rejections apply to the new claims added. However, Applicant will differentiate the present invention from the cited prior art to assist the Examiner.

Ormiston describes a rotating fan and the use of a specific combination of *ceramic* plates adhered to the fan blade, in conjunction with organic plastic adhesives and a coupling agent to form covalent chemical bonds between the ceramic plates and the surface of the fan blades (see Ormiston, col. 2, lines 36-42). Ormiston explains that this particular combination is necessary to specifically overcome problems known in the prior art: use of tungsten carbide tiles that were glued or soldered to metal substrates failed because the bonds would break apart under stress (see Ormiston, col. 1, lines 48-62).

The present invention provides an alternative solution from that of Ormiston to the known problem disclosed in Ormiston by positioning the plates and tiles in such a way as to provide for slight flexibility of the plates and tiles in relation to other plates and tiles. The present invention eliminates the need for only ceramic tiles in conjunction with use of only special adhesives and coupling agents as in Ormiston (see Application, p. 6, lines 6-9).

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Both Ormiston and Whiton, Jr. teach applying a *single* layer of wear-resistant material over the channel to reduce or slow wear of the fan blades. The present invention teaches the use of a second, additional layer of wear-resistant material over part of the channel that experiences more wear than other parts of the channel. The second layer of wear-resistant material is comprised of horizontal and vertical tiles arranged in unique patterns with respect to each other. The unique arrangements of the horizontal and vertical tiles in this second layer create seams and edges that break up the flow of fluids across the surfaces, thereby reducing the speed of the particles through the channel, which reduces erosion. (See Application, p.2 line 31-p.3 line 1; p.5 lines 13-19; p. 6 lines 21-33; p.7 lines 10-16). While the application of an additional layer of material in the channel joint provides additional protection, it is the unique arrangements of the tiles with respect to each other in the present invention that provide an unforeseen benefit of further reducing wear by altering the flow of material across the surface of the fan blade channel due to the irregularly arranged seams and/or edges. It would not have been obvious to a person having ordinary skill in the art to modify the fan blade of Ormiston or Whiton to include an additional layer of flat tiles at the intersection of the fan sides and fan blades arranged in a unique pattern to alter the flow of material through the channel.

In light of the claim amendments, it is respectfully requested that new Claims 23 through 39 be allowed so that the application may be passed to issue for the reasons set forth herein and for other reasons clearly apparent.

Enclosed is a check in the amount of \$55 for a 1 month extension of time. Applicant does not believe any additional fees are due; however, in the event that any such fees are due, the Commissioner is hereby authorized to charge any required fees due (other than issue fees), and to credit any overpayment made, in connection with the filing of this paper to Deposit Account No. 50-2180 of Paul Storm, P.C. Should the Examiner have any questions or desire

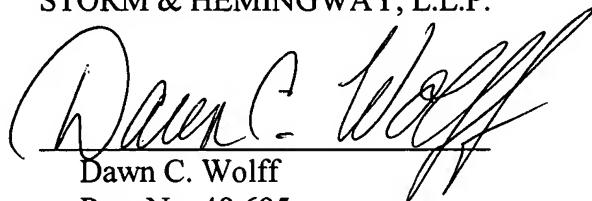
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clarification of any sort, or deem that any further amendment is desirable to place this application in condition for allowance, the Examiner is invited to telephone the undersigned at the number listed below.

Date: 10-1-04

Respectfully submitted,

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3. AMENDMENTS TO THE DRAWINGS

The drawings are being revised at the request of the Examiner to address matters pertaining to 37 C.F.R. 1.84(p)(5). Applicant has corrected Figure 1 to include a callout for "system 1" as mentioned in the description. Applicant has corrected Figures 3 & 4 to show tiles 104 & 104' as separate pieces as described in the specification; a solid line has been drawn in Figures 3 & 4 to show the distinction of the adjoining tiles. Applicant has amended Figure 5 to correct an incorrect callout for 104' to be 104. A new set of drawings incorporating the revisions is provided with this Response. Applicant is also submitting a copy of the revised drawings to the Official Draftsman.